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## LORD'S ADDITIVES LLC

856-415-1374

856-415-0227 (F)

## FACSIMILE TRANSMITTAL SHEET

TO:	Matthew Daniels	FROM:	Stephen Bales
COMPANY:	USPTO	DATE:	1/5/2009
FAX NUMBER:	571-273-8300	TOTAL NO. OF PAGES INCLUDING COVER:	7
PHONE NUMBER:		SENDER'S REFERENCE NUMBER:	
RE:	APPL 10/681,497	YOUR REFERENCE NUMBER:	

Mr Daniels,

Following the Final Rejection received on 10/31/08, I believe the proposed amended claims would be in compliance with MPEP 714.13:

1. The OA 1 objection is removed by modifying Claim 17.
2. The OA 2 objection is removed by eliminating boric acid from all claims.
  - a. Claim 1 references only cationic salts of boric acid which includes all borates but not boric acid itself.
  - b. Claims 10 & 11 are canceled and boric acid is removed from Claim 16.
3. Claims 1 and 16 are further limited to polyolefins (vs all thermoplastics). Touval teaches that a minimum flame retardancy level in polyolefins requires at least 2% tin oxide, 8% colemanite and at least 8% of an organic halogen source such as a chlorinated paraffin. See Example 3 (8:67 – 10:15) including Table 2 and 2:55-3:2. This has the following ramifications:
  - a. OA4: Aida teaches polyethylene, would require at least 8% of an organic halogen, 2% tin oxide, and 8% colemanite to be effective as a flame retardant. This is not consistent with the 2-12% or 3-5% range of this invention.

- b. OA4: The combination of tin oxide and wood work against an effective fire retardant combination as noted in the Applicant's May response, p8 (USDA study by Holmes shows Stannic Oxide produces glowing in wood)
- c. OA 4: The current invention produced a surprising result given the Koskiniemi teaching that colemanite did not effectively suppress mold growth. This is augmented by the history outlined in previous amendments; that mold in wood plastic composites was a well known problem for years yet no one attempted the use of colemanite in these composite products until the testing performed by the applicant..
- d. OA5: Colemanite is not an effective polyolefin flame retardant at the levels of the invention (ie would render Tourval unsuited for its intended purpose). Also there is the same comment on use of tin oxide and wood as above and finally the result using colemanite was surprising.
- e. OA6: The disagreement on this objection is whether or not there is a motivation to combine Pelikan & Lloyd. Pelikan teaches a total weight of the carrier material of 5-25% with 10-30% of the carrier material being the bubble forming agent (6:13-18). This gives a max lignocellulosic content of  $25 \times .9 = 22.5\%$ . Verhey (*Fungal Resistance of Wood Fiber/Thermoplastic Composites*) shows that significant wood decay doesn't begin until wood content is 50% and almost no decay occurs at 30%. One skilled in the art would not be motivated by Pelikan to add decay preventative material to Pelikan.

I will contact you in the near future to regarding these comments.

Thank you,

Stephen Bales